

## NAVAL KUMAR KASHYAP

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### Technical Skills

**Languages:** C/C++ (Data structures & Algorithms), Python

**Products:** Cisco MME/S-PGW, Nokia Flexi Next Gen Gateway (LTE)

**Operating Systems:** Ubuntu, Windows versions, and Mac OS

**Hardware Platform:** Cisco ASR5000/5500, Cisco 3950 ISR, Cisco Catalyst 3750, ATCA, Dx200

**Tools Used:** Eclipse, GitHub, Wireshark Analyzer, Nethawk, Monitor Protocol, Lattice, Bugzilla, Jira, CDETS

**Telecom Domain:** Understanding of LTE/SAE, 3GPP Standards, EUTRAN and UMTS/GSM

**Protocols:** TCP/IP, SCTP and Routing Protocols (RIP, OSPF, EIGRP) and 3GPP standardized protocols

### Educational Qualification

**Master of Science in Computing and Software Systems** (Expected Graduation - March 2017)

University of Washington

Grade: 3.5

**Bachelor of Technology in Electronics & Telecommunication** (2004 - 2008)

University: GGSIP University affiliated to ACITE, India

### Professional Summary

- Currently pursuing Master in Computing and Software Systems
- Researching on development of
- Worked as a Software/QA Engineer in Cisco's 4G core network element MME
- Worked on LTE, IMS, 3G/2G (eUTRAN/UTRAN/GERAN)
- Worked on System integration testing and End-to-End testing for VoLTE.
- Experience in Agile Software Development Life Cycle
- Development of automation framework for in-house tools using Python
- Participated customer demos and Lab trials.
- In-Depth understanding of Customer (Vodafone-Germany) Network and involved in reproducing issues and testing the solutions in a laboratory environment.

### Projects Undertaken

- **RF-powered Battery-free Wireless Sensor Network** Autumn-2016 Currently developing a routing algorithm that will enable wireless sensors to communicate with each other and transfer data in the network. Major challenges in this network are that sensors have limited power supply, as they need to harvest energy from surrounding RF signals emitted by other devices like mobile phones, WiFi access points, cellular towers etc. To achieve longevity, batteries are replaced with capacitors that can only hold limited energy. As it is expected that the network will not get uniform RF-energy over the time, routing algorithm must be able to optimize data routing in close real time to achieve maximum efficiency.

- **Stress Detection, Recognition & Relief** Spring-2016 Currently working on a project to build a complete solution that helps the people to detect their psychological and physiological condition of the stress level and suggests them a variety of different ways to alleviate stress based on their interests. In this project heart rate sensor, GSR sensor and pedometer are used to record various human conditions, which can detect if a person is in stress. A mobile application will be used to connect to a wearable device, which gathers the data and upload it to a cloud-based system for analysis and determines the stress level. Machine learning algorithms will be used for data analysis and finding patterns to create a profile for each single individual that can help to increase the accuracy of stress recognition.

## Professional Experience

### Product Development of Cisco MME

Duration: July 2011 to August 2015  
 Period of Employment: 4 years  
 Role: Software/QA Engineer II

- Developed new features and enhancements for Cisco MME
- Root-cause analysis of defects found from real-time networks.
- Used agile methodology, the focus was to quickly provide solutions to customers. Worked on specific requests coming from customers, to test the functional behavior which is critical for their businesses.
- Wrote Test strategy and test cases with a high focus on deploy quality products. Creation and Validation of the Software Functional Specifications.
- Worked in the development of in-housing testing tools like Lattice/LPS which are based on Python and C. These tools are used to simulate entities which can interact with developing products for their testing.
- Deep dived in creating automation framework using Python/TCL which helped the testing team to run test cases automatically and hence reducing their efforts.

### LTE/IMS End-to-End Testing at Nokia:

Duration: August 2008 to July 2011  
 Period of Employment: 3 years  
 Role: Research and Development Engineer

- Responsible for the lab environment setup of LTE/IMS network for the customer demo and trails
- Proof of concept and Inter-Operability testing for various vendors with Nokia products like MME and eNodeB
- Worked on end-to-end LTE environment. Testing of Nokia Flexi NS (MME) with other network elements on interfaces
- Knowledge of Layer 2 and 3 protocols like RRC, RLC/MAC

## Achievements

- Outstanding Performer in Nokia Networks for my contribution to bringing up the 4G network in SRN lab and performing exceptionally well from my role.
- Set up internal LTE lab for validation and system verification for a full fledged VoLTE solution involving MME/S-PGW, eNodeB and ISP (Media Servers).
- Won "Spot Award" for the success of first ever TD-LTE call on 2.3 GHz using commercially available hardware across the world in a Media Event, which was highly appreciated by customers and higher management.